Recommended Plan for Implementing AB 1023
by
Establishing a Computer Education Advisory Panel

Professional Services Division
November 1997

Summary
Assembly Bill 1023 was recently signed into law (Chapter 404 of the statutes of 1997). This law requires the California Commission on Teacher Credentialing to establish standards of program quality and effectiveness relative to the use of computers in the classroom for preliminary credential candidates, and to establish standards of program quality and effectiveness relative to advanced computer-based technology for professional credential candidates.

This agenda report proposes a plan to implement this new law, including the establishment of a Computer Education Advisory Panel.

Policy Issue
What steps and procedures should be taken by the Commission to effectively implement a new statute?

Fiscal Impact
The current budget of the Professional Services Division for 1997-98 and the projected budget for 1998-99 include sufficient funds to support this activity.

Recommendation
Staff recommends that the Commission authorize the formation of a Computer Education Advisory Panel to develop standards of program quality and effectiveness relative to the use of computers in the classroom for preliminary credential candidates, and to establish standards of program quality and effectiveness relative to advanced computer-based technology for professional credential candidates.

Background Information

Current Requirements:
Minimum requirements for the professional (second-level) Multiple or Single Subject Teaching Credential include, by law, the completion of study of computer-based technology, including the uses of technology in educational settings. The Commission, through its regulatory authority, established those requirements in March of 1988. Those requirements continue in effect today.

Current requirements focus upon providing elementary and secondary teachers with a minimum level of computer skills and knowledge necessary to utilize educational technology in the instruction of pupils. Teachers are expected to identify issues involved in the access to, use, and control of computer-based technologies in a democratic society; demonstrate knowledge of basic operations, as well as the use of computer hardware and software; understand and use representative programs appropriate to their teaching subject area and grade level; use computer-based technology as a tool to enhance problem solving; and to integrate a computer-based application into instruction in his or her selected subject area and/or grade level.

Review Committee Recommendations:

As part of its ongoing review of standards, a Commission-sponsored review committee analyzed the current requirements. In January of 1996, the review committee made its report to the SB 1422 Advisory Panel. The report indicated that, while a computer education requirement was and is generally viewed as a much needed addition to minimum credential requirements, the passage of time revealed the need for several improvements to meet today's needs. Six recommendations were made which are summarized as follows:

First, because the current requirement postpones completion to the professional (second-level) credential, many teachers are involved in classroom teaching for up to five years before acquiring any technology competency. The teaching methods and subject area curriculum faced by today's beginning teachers incorporates a more prevalent use of technology and suffers from a lack of skills on the part of those teachers who are not prepared. These skills should not be postponed, but rather, beginning teachers should demonstrate technology proficiency skills before entering the classroom (prior to the issuance of the preliminary or first-level credential);

Second, a variety of mechanisms should be made available which would enable beginning teachers to demonstrate their proficiency in educational technology, including a course of study, passage of an examination, or passage of a challenge or demonstration of proficiency;

Third, the minimum requirements should be revised to reflect current educational technology needs.

Fourth, programs or courses offered in satisfaction of educational technology requirements must be regularly assessed in order to determine that such offerings 1) continue to meet Commission requirements, and 2) adequately provide participants with the minimum skills and knowledge in educational technology needed to serve California's public schools. These programs or courses have never been reviewed by the Commission since the initial paper review that was completed prior to their approval;

Fifth, educational technology skills should be developed in teachers beyond those needed for a beginning teacher and should be an integral component of teacher preparation programs. Specifically, technology should be integrated into the subject matter, professional preparation, and professional level/growth components of credential programs; and

Sixth, on-going staff development should be available to experienced teachers who wish to enhance their skills.

SB 1422 Advisory Panel Recommendation:

The report of the review committee was presented to the SB 1422 Advisory Panel on two separate occasions. Primarily due to time constraints, the SB 1422 Advisory Panel did not include in its recommendations to the Commission a specific response to the review committee recommendations. The Advisory Panel did, however, make several recommendations relative to the need to integrate computer education requirements into Multiple and Single Subject Teaching Credential programs. In addition, the Advisory Panel recommended that the Commission utilize and rely on the recommendations of expert advisory task forces to develop "Teacher Preparation Guides" for specific content areas, including instructional technology. The SB 1422 Advisory Panel recommendations are consistent with the recommendations made by the review committee.

"Connect, Compute and Compete":

In July of 1996, the 46 member California Education Technology Task Force, convened by Delaine Easton, State Superintendent of Public Instruction, published its report entitled "Connect, Compute and Compete".

That report makes four major recommendations which are summarized as follows:

Recommendation 1: Telecommunications Infrastructure, Hardware, and Learning Resources. Equip every California classroom and school library with the technology resources needed to create a learning environment that will improve student achievement;

Recommendation 2: Student Content and Performance Standards. Incorporate technology into student and performance standards recommended by the state for adoption at the district level;

Recommendation 3: Teacher Content and Performance Standards. Integrate technology into the content and performance standards that will be used as the basis for setting policies for preparing, hiring, evaluating, and promoting teachers; and

Recommendation 4: Technical Support. Provide the expertise and resources to support the effective use of technology for students, teachers, parents, and the broader community.

Education Council for Technology in Learning Recommendations:

In response to the recommendations of the California Education Technology Task Force, the Education Council for Technology in Learning[1] (ECTL) developed, for the State Board of Education, technology-based content and performance standards for teachers and students. The Council recommended four levels of performance standards for educators (all educators) which are briefly summarized as follows:

I. Level One: Personal Proficiency. Educators are able to 1) use a computer to enhance personal productivity, 2) locate information and conduct research via the internet/World Wide Web, and 3) operate a variety of common media display devices;

II. Level Two: Instructional Proficiency. Educators are able to apply education technology skills (of at least Level One proficiency) to 1) "customize" course work so as to enhance its perceived relevance and value to a wider range of learning styles and abilities, 2) increase student involvement in their personal learning experience, and 3) gain greater freedom to spend increased personal time with those students who most require it;

III. Mentor Proficiency. Educators facilitate the attainment of Personal Proficiency (Level One) and Instructional Proficiency (Level Two) among all current educators, via the tutelage of peer teaching professionals which exhibit role model proficiency in the use of education technology, and which use those skills pursuant to site level staff development workshops and local peer-to-peer mentoring; and

IV. Leadership Proficiency. Educators possess superior knowledge, skill, and inclination, vis-a-vis the application of education technology to enhanced teaching and learning on an institution-wide basis.

The Digital High School Initiative:

One of Governor Wilson's "Initiatives for a Better California" reminds us that California's Silicon Valley is the birthplace of high-tech and the homebase of many of the world's leading high-tech firms. Yet, California still ranks 45th out of 50 states in student access to computer technology. The governor believes that all graduates from California's public high schools should have proficient computer skills if they are to successfully compete in a growing and complex marketplace. In his 1991 "State of the State" address, Governor Wilson called for a significant investment in technology - computers, Internet access and software - for every one of California's 1.6 million high school students. As signed into law by Governor Wilson, the "Digital High School" legislation (AB 64) provides for the following:

1. A one-time grant of $300 per student, matched by local school districts, to install a comprehensive computer network on each of California's 840 public high schools; and

2. Permanent, annual funding of $45 per student, matched by local school districts, for maintenance and upgrade of these networks.

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[1]The ECTL is a statutory body which consists of 13 members selected by the State Superintendent of Public Instruction, the Governor, the Senate Rules Committee, and the Speaker of the Assembly. The Council is charged with a number of education technology-related duties, including identifying needs for technology use in education.

Total funding in the current fiscal year is $100 million, enough for approximately 200 high schools to receive installation grants. This is only the first year of the program; additional funding will be provided in the Governor's next budget, and in the following two years. Every California public high school will receive a grant within four years - an unprecedented investment in the future of our students. With the local match, the typical high school will be able to invest approximately $1 million on its computer network - Internet access for every student and teacher, hardware, local networks and software.

AB 1023, Authored by Assembly Member Kerry Mazzoni:
Passage of Assembly Bill 1023 requires the Commission to (1) establish standards of program quality and effectiveness for *basic* competency in the use of computers in the classroom for the preliminary (first-level) Multiple or Single Subject Teaching Credential; and (2) establish standards of program quality and effectiveness for the study of *advanced* computer-based technology, including the uses of technology in educational settings for the professional (second-level) Multiple or Single Subject Teaching Credential.

Clearly, the passage of this legislation is timely to say the least. The recommendations of the Commission's review committee, the SB 1422 Advisory Panel, the California Education Technology Task Force report, the Education Council for Technology in Learning report, and Governor's Wilson's "Digital High School Initiative" all portray a consistent message:

> that the preparation of California's teachers to use technology in classroom instruction is imperative. The ability of our children to compete and succeed as part of tomorrow's workforce, as citizens in an increasingly technological society, and as life long learners is, in large part, dependent upon the competent instruction they receive and observe in our public schools. Today's teachers need to use computers to keep students grades, develop lessons, word process and communicate with others beyond the walls of the classroom; use technology as a tool for instruction; be sufficiently competent with technology to encourage students to use computers in and out of the classroom; and enable students to use technology as a tool for learning.

The Computer Education Advisory Panel will have the distinct benefit of the efforts of its predecessor committees, task forces, advisory panels and initiatives. All of these reports and recommendations will be presented to the AB 1023 Advisory Panel for their consideration.

Discussion: Recommended Plan for the Establishment of a Computer Education Advisory Panel

Panel Selection and Composition: As provided by law [Education Code Section 44225(i)] and required by long-standing practice by the Commission, it is recommended that an expert advisory panel be selected to undertake a comprehensive review of the computer education competencies needed by teachers.

The Advisory Panel should be comprised of no more than seventeen members. All of the panelists will be experts in the field of computer education and/or the uses of computers in the classroom. The constituencies represented will include (a) classroom teachers who use computers in educational settings; (b) school-based specialists in the educational uses of computers; (c) staff development specialists who train practicing teachers in the instructional uses of computers; (d) college and university faculty members who teach courses in the instructional uses of computers in K-12 schools; (e) school-based administrators who are responsible for managing individual schools and entire school districts; and (f) representatives from businesses and industries that employ students and graduates in the workforce.

Nominations of prospective panelists will be solicited from institutions of higher education, county superintendents of schools, selected school district superintendents, the presidents of professional associations, business and industry, and other appropriate state and local education officials. Because of their important work in this area, Governor Wilson, State Superintendent Delaine Easton, and the Education Council for Technology in Learning will be asked to nominate one individual each to serve as a liaison to the Advisory Panel. Commissioners and legislators will also be encouraged to suggest prospective members.

The staff will request the nominees' professional resumés, and will examine their qualifications to serve as panel members. Commissioners will have an opportunity to comment on the lists of nominees before selections and appointments are made. In keeping with the Commission's *Policy Manual*, the Executive Director will appoint a panel whose members represent, in the aggregate, the best possible balance among the various qualities of interest. Letters of appointment will be sent to the selected panelists.

Panel Tasks and Time Frames: Working under the coordination of Commission staff members, the Advisory Panel will bring its combined professional expertise to bear upon the issues under consideration. In the development of its report and recommendations to the Commission, the panel will take into account the perspectives of K-12 teachers, school administrators, higher education, and business and industry.

From January through December of 1998, the Advisory Panel is expected to meet for approximately twelve days (six two-day meetings). The major phases of the panel's projected work during this period includes:

1. Orientation to the panel's mission, review and critique of current requirements.
2. Review current research, surveys and studies related to the computer education needs of classroom teachers.
3. Review the reports and recommendations of the various committees, task forces and advisory panels that have dealt with the educational uses of computers.
4 Consider important issues affecting the computer education needs of teachers at various stages of their credential preparation program.
5. Develop and recommend standards of program quality and effectiveness relative to the use of computers in the classroom for preliminary credential candidates.
6. Develop and recommend standards of program quality and effectiveness relative to advanced computer-based technology for professional credential candidates.
7. Develop and recommend a variety of methods by which the attainment of standards may be assessed and demonstrated.
8. Present draft documents to the Commission, and disseminate draft documents to the field for discussion and comment, and
9. Prepare a written report to the Commission containing the final recommendations of the Advisory Panel.

Following the completion of their responsibilities, the Advisory Panel will be discontinued. Subsequently, selected members of the former panel will be called upon to participate in program reviews.